

WHAT IS CLAIMED IS:

1. An oxygen enriching apparatus which enriches oxygen contained in air to thereby obtain oxygen-enriched gas, and which supplies the oxygen-enriched gas to a user synchronously with inhalation of the user by means of a breath synchronizing function, which comprises:

5 means for supplying the oxygen-enriched gas at a first flow rate equal to or less than a continuous base flow rate when a breath-synchronized operation is not performed, which represents a flow rate at which the oxygen enriching apparatus can supply the oxygen-enriched gas continuously; and

10 means for supplying the oxygen-enriched gas at a second flow rate greater than the continuous base flow rate during an inhalation period having a length 25 to 40% that of a breathing cycle of the user when a breath-synchronized operation is performed.

2. The oxygen enriching apparatus as claimed in claim 1, comprising means for establishing a continuous base flow rate equal to or less than 4 liters/min.

3. The oxygen enriching apparatus as claimed in claim 1, which comprises means for detecting the state of inhalation or exhalation including a sensor, and for controlling supply of the oxygen-enriched gas based on a signal output from the sensor.

4. The oxygen enriching apparatus as claimed in claim 3, which comprises means for determining a timing for starting or ending supply of the oxygen-enriched gas in the breathing cycle, based on the sensor signal.

5. The oxygen enriching apparatus as claimed in claim 4, which comprises means for detecting the state of inhalation or exhalation one time or a plurality of number of times on the basis of a signal output from the sensor, and for determining the timing for starting or ending subsequent supply of the oxygen-enriched gas based on the thus-detected state of inhalation or exhalation.

6. The oxygen enriching apparatus as claimed in claim 1, comprising a tank provided in an oxygen-enriched-gas supply passage on the downstream side of an oxygen enriching section, for accumulating oxygen-enriched gas supplied during the exhalation period of each breathing timing.

7. The oxygen enriching apparatus as claimed in claim 1, comprising a plurality of tanks provided in series in an oxygen-enriched-gas supply passage, on the downstream side of an oxygen enriching section, for stably supplying the oxygen-enriched gas.

8. The oxygen enriching apparatus as claimed in claim 7, wherein each of two tanks connected in series has a capacity of at least 500 ml.

9. The oxygen enriching apparatus as claimed in claim 7, comprising a check valve for preventing reverse flow toward the oxygen enriching section disposed between the plurality of tanks.

10. The oxygen enriching apparatus as claimed in claim 1, comprising a switch for setting a flow rate of the oxygen-enriched gas, wherein when the flow rate is set by use of the switch to the first flow rate equal to or less than the continuous base flow rate, the oxygen enriching apparatus supplies the oxygen-enriched gas continuously, and when the flow rate is set by use of the switch to the second flow rate greater than the continuous base flow rate, the oxygen enriching apparatus supplies the oxygen-enriched gas by means of the breath-synchronized operation.

11. A controller for controlling operation of the oxygen enriching apparatus claimed in claim 1.

12. A recording medium having recorded thereon means for executing the function of the controller claimed in claim 11.